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ABSTRACT

Before planning leadership strategies for improving student achievement, principals need to identify the factors that affect achievement and determine how they affect it. Model 1 shows that strategies to improve student achievement should consider four key factors: (1) students' inherited capacity to learn, (2) students' learning experiences, (3) students' desire to achieve in school, and (4) students' self-concepts of their academic abilities. Principals' efforts to influence teachers to improve student achievement should be directed at essentially these same variable factors. Studies show that teachers' perceptions of the value principals place on student achievement affects teachers' efforts to improve student achievement. Model 2 shows that the principal will be most effective in motivating teachers to stress student achievement when teachers have positive attitudes toward the principal and believe he values achievement highly. A similar relationship may hold for teachers' effectiveness in motivating students. Model 3 integrates the relationships shown in models 1 and 2 to illustrate how principals may affect student achievement by focusing their resources on key variables.

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***The principal and student achievement**

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Accountability in education has been increasingly emphasized in recent years. Although accountability means different things to different people, current emphasis is clearly being placed directly on accountability for the academic achievement of students. This emphasis places responsibility on local school systems for "producing" student achievement. School principals, as educational leaders, are expected to shoulder much of this responsibility.

Many educators doubt principals have much impact on the academic achievement of students. When one considers that portion of achievement which can be explained by such factors as cultural, societal, social, and home backgrounds, the relative effect of school principals may, indeed, appear to be insignificant. But, schools provide the environment in which students with different characteristics, backgrounds, and motivations are formally taught academic skills. As administrative leaders, principals have a tremendous influence on the human environment within schools and therefore on the achievement of students.

This discussion is designed to help principals plan strategies for improving student achievement by working with and through teachers. First, a model is developed to illustrate relationships between certain critical factors and student achievement. Next, conditions are described which enhance the probability principals will be effective in working with and through teachers to improve the achievement of students. The discussion concludes with a model illustrating relationships between key leadership variables and student achievement, along with suggestions for the consideration of school principals as they plan strategies to improve the achievement of students.

Factors Affecting Achievement

Before planning leadership strategies for improving student achievement, principals need to identify the factors which have the most effect on achievement and determine how they influence achievement. As Brown (1976) points out, there are certain variables beyond the control of schools which are consistently correlated with student achievement. However, knowing these correlates of achievement simply permits the

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prediction of achievement. If principals are to plan for improving student achievement, then they need to consider the factors affecting student achievement and determine which of these factors can be influenced by schools.

Any attempt to develop a conceptual model of variables affecting achievement should take into consideration the ability of the students—ability being defined as the capacity to perform. Before students can be expected to accomplish specific learning tasks, they must have certain capabilities. Students who have little ability cannot be expected to score as high on measures of academic achievement as those who have superior ability. However, recognizing student ability as a limitation does not mean schools should accept a level of achievement based solely on the abilities of their students.

Ability, or the capacity to perform, is considered to be the product of two interacting factors—inherited potential and ability gained through successful experiences (Lavin, 1965, p. 47). For the purposes of the discussion here, inherited potential can be defined as the capacity to learn an individual possesses by virtue of being the biological offspring of his parents. This innate capacity to learn, or intelligence, may be considered to be a threshold variable in that once a certain level is reached achievement is no longer limited by intelligence. McClland, Baldwin, Bronfenbrenner, and Strodtbeck (1958, p. 13) indicated this possibility when they wrote, "given a moderately high level of intelligence, it is possible to be one of the world's greatest living scientists." In other words, high achievement does not depend exclusively on high intelligence.

Successful experiences provide students with new abilities to perform. Students who have experienced success in learning skills in school have increased their ability to perform new tasks. For example, students who have mastered multiplication and subtraction skills have the experience foundation upon which the ability to solve long division can be built. Students who do not have these skills cannot be taught to successfully complete long division computations as easily as those who possess these critical skills. Schools cannot change the inheritance of their students, but schools can provide students with successful experiences and thereby increase their ability to achieve in school.

However, even with ability to achieve, some students fail to achieve. Smith and Cranny (1968) developed a model in which effort was depicted as the only variable directly affecting performance. If one assumes that achievement results primarily from mental and/or physical effort rather than serendipity, then effort should also be an integral part of any model attempting to explain student achievement.

Vroom (1964, p. 276) described two variables as directly influencing the motivation of individuals to exert effort to achieve. Translated into educational terminology, the two variables are: (1) the individual's

desire to achieve and (2) the individual's self-concept of ability to achieve. Desire refers to the extent to which the individual prefers to achieve and self-concept of ability refers to the individual's perception of the probability he can achieve. Students who have little desire to achieve can be expected to exert little effort to achieve. Similarly, students who do not believe they can achieve are not likely to exert a great deal of effort to achieve.

Much of the desire to achieve is instilled in students before they enroll in school. But, this is not to say that desire to achieve is fixed and immutable. All external motivation strategies are based on the assumption that the internal motives, or desires, of individuals can be altered by external stimuli. This assumption is well founded for all motivation is influenced by learning, and especially learning which takes place through social experiences (Vander Zander, 1970. pp. 67-68).

The social experiences of children occur largely within the family unit during their early years. During this time many of their values, attitudes, and beliefs are formed. Through social experiences in school these cognitions and affections are reinforced, modified, and changed. Since teachers are important parts of the social environment within schools, they have considerable influence on the values, attitudes, and beliefs of students and thus affect their motivations.

In addition to inherited capacity to learn, learning experiences, and desire to achieve, the self-concept of students is also integrally related to their achievement in school. As Purkey (1967, p. 15) indicated, the achievement of students appears to be as closely related to their self-concepts as to their mental abilities. Coleman, Hobson, McPortland, Mood, Weinfeld, and York (1966, pp. 320-321) found this association between self-concept and achievement to be particularly true for students from higher socioeconomic status homes.

Rather than viewing desire to achieve and self-concept of ability to achieve as separate entities, a more practical approach might be to view them as interacting influences on effort. Students who have a strong desire to achieve may be expected to exert a great deal of effort to achieve when they also believe they can achieve. However, no matter how positive students are that they can achieve in school, little effort can be expected from them unless they also have the desire to achieve. Viewed in this manner, desire to achieve and self-concept of ability to achieve may be considered as key, interacting determinants of the effort students exert to achieve in school.

The achievement of students has been described as being influenced by two factors: ability and effort. Each of these factors were also described as being the product of two interacting variables—ability by inherited capacity to learn and learning experiences, and effort by desire to achieve and self-concept of ability to achieve. An illustration of relationships between these variables and student achievement is presented in Model I.

Model I
FACTORS AFFECTING ACHIEVEMENT



As Model I illustrates, strategies to improve student achievement should take into consideration four key factors: (1) the students' inherited capacities to learn, (2) the learning experiences of students, (3) the students' desire to achieve in school, and (4) the students' self-concepts of ability to achieve in school. However, to be effective in improving student achievement, principals must be able to influence the behavior of teachers through appropriate leadership strategies. For teachers to be effective in improving the achievement of students, they must affect the behavior of their students.

Leadership Effectiveness

As administrators school principals must work through others to accomplish the goals of the organization—the school. The efforts of principals to influence the behavior of teachers toward improving student achievement should be directed at essentially the same variable factors identified in Model I. Principals should plan strategies to improve student achievement by focusing their resources on: (1) the learning experiences of teachers, (2) the desire of teachers to improve student achievement, and (3) the teachers' self-concepts of ability to improve student achievement.

According to a model developed by Matthews and Brown (1975), certain conditions enhance the probability that principals will be effective in motivating teachers to exert effort to improve student achievement. Effective leadership by principals is dependent on the receptivity of teachers to the leadership acts of principals. If principals are to motivate teachers to improve student achievement, the teachers must respond in a positive way to the leadership of principals. The inclinations of teachers to respond to the principal in a positive way is affected by their attitudes toward him (Rokeach, 1968, p. 112). If teachers have negative attitudes toward the principal, they will be inclined to respond to his leadership in negative ways. To be effective, principals should develop positive relations with teachers. Even though positive attitudes facilitate effective leadership, this condition does not necessarily result in higher student achievement. Teachers may have highly positive attitudes toward the principal and still the principal may be ineffective in improving student achievement. As Schachter, Ellertson, McBride, and Gregory (1951) have demonstrated, groups with positive attitudes may be highly productive or very low in production.

Lipham and Hoeh (1974, pp. 184-185) describe effective leadership as accomplishing desired ends. If the desired goal of principals is improved student achievement, then student achievement must improve before their leadership is effective.

Studies of principal-teacher relations and student attitudes by Adkinson (1974) and Matthews (1974) support the contention that teachers' perceptions of the value principals place on student achievement affects

the efforts of teachers to improve the achievement of students. After reviewing these studies, Matthews and Brown (1975) concluded that the leadership acts of principals would be most effective when: (1) teachers have positive attitudes toward the principal and (2) teachers perceive the principal as valuing production highly.

The attitudes of teachers toward the principal can be considered to be an enabling condition—one which influences the direction of teacher responses to leadership acts of the principal. If teachers believe the principal values student achievement little, then he will not motivate them to stress achievement in their classrooms to any great extent. But if they have positive attitudes toward the principal and believe he values achievement highly, then they will be inclined to exert much effort toward improving student achievement. One explanation of relationships between the attitudes of teachers toward the principal, their perceptions of the value he places on student achievement, and the principal's effect on the motivations of teachers to improve student achievement is illustrated in Model II.

As depicted in Model II, the principal will be most effective in motivating teachers to stress student achievement in their classrooms when teachers have positive attitudes toward him and believe he values achievement highly. A similar relationship may hold for the effectiveness of teachers in motivating students to exert effort to achieve. If this relationship exists, then teachers will be most effective in motivating students when: (1) students have positive attitudes toward their teachers and (2) believe their teachers value achievement highly.

The Principal's Influence on Achievement

The preceding discussion has identified critical variables influencing the principal's effectiveness in improving student achievement. Relationships between other factors and achievement are presented in Model I. These relationships are based on three assumptions about the academic achievement of students and the teaching "achievement" of teachers as reflected in academic learning by students:

1. Achievement is affected by ability to achieve and effort exerted to achieve.
2. Ability to achieve is the product of two factors: (1) inherited capacity to learn and (2) learning experiences.
3. Effort exerted to achieve is affected by two factors: (1) desire to achieve and (2) self-concept of ability to achieve.

Model II presents relationships between key variables and the effectiveness of principals in motivating teachers to exert effort toward improving student achievement. This model is based on the assumption that principals will be most effective in motivating teachers to exert effort to improve student achievement when: (1) teachers have positive attitudes toward the principal and (2) the principal is perceived as valuing student achievement highly. A similar relationship is hypothe-

MODEL II LEADERSHIP AND MOTIVATION

*Adapted from a model developed by Matthews and Brown (1975)

Positive	Principal's Effect on Motivation: Low	Principal's Effect on Motivation: Moderate	Principal's Effect on Motivation: High
Neutral	Principal's Effect on Motivation: Low	Principal's Effect on Motivation: Moderate	Principal's Effect on Motivation: Moderate
Negative	Principal's Effect on Motivation: Low	Principal's Effect on Motivation: Low	Principal's Effect on Motivation: Low
	Low	Moderate	High

*Teachers' Perceptions of Principal's
Value on Achievement*

Teachers' Attitudes Toward Principal

sized for the effectiveness of teachers in motivating students to exert effort to achieve.

In Model III the relationships depicted in Models I and II are integrated to illustrate how principals may affect student achievement by focusing their resources on key variables. By identifying conditions existing in his school, each principal can plan strategies to improve student achievement through these key variables.

The following suggestions are presented for the consideration of principals to aid in the development of their plans:

One—Principals should provide teachers with in-service training and other opportunities for successful learning experiences in order to improve their ability to teach.

Two—Principals should develop positive relationships with teachers and demonstrate to teachers that they value student achievement highly in order to motivate teachers to exert more effort to improve student achievement.

Three—Principals should foster a belief on the part of teachers that they can improve student achievement.

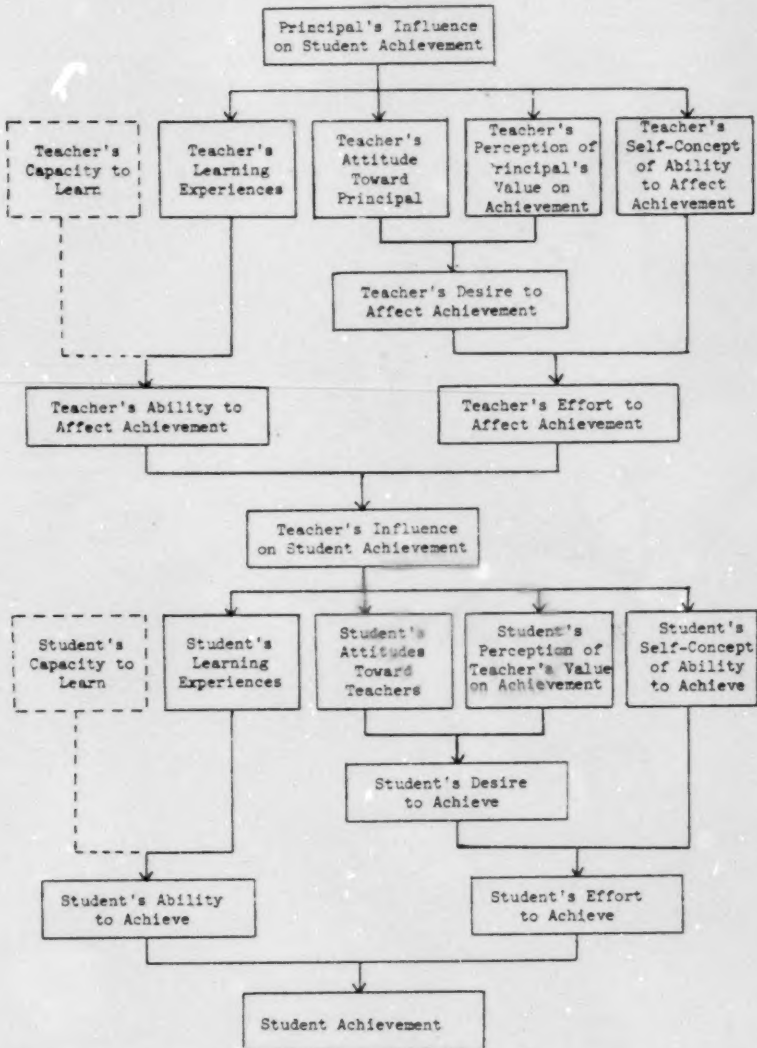
Four—Principals should encourage teachers to improve the ability of their students by providing students with opportunities for successful learning experiences.

Five—Principals should assist teachers in motivating students by facilitating positive student-teacher relations and encouraging teachers to demonstrate to students that they value achievement highly.

Six—Principals should support the efforts of teachers to improve the students' self-concepts of ability to achieve.

MODEL III

THE PRINCIPAL'S INFLUENCE ON STUDENT ACHIEVEMENT



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